GemStone®

GemBuilder® for Smalltalk Release Notes

Version 7.4.1

February 2012

vmware®

GEMSTONE S™

INTELLECTUAL PROPERTY OWNERSHIP

This documentation is furnished for informational use only and is subject to change without notice. VMware, Inc., assumes no responsibility or liability for any errors or inaccuracies that may appear in this documentation.

This documentation, or any part of it, may not be reproduced, displayed, photocopied, transmitted, or otherwise copied in any form or by any means now known or later developed, such as electronic, optical, or mechanical means, without express written authorization from VMware, Inc.

Warning: This computer program and its documentation are protected by copyright law and international treaties. Any unauthorized copying or distribution of this program, its documentation, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted under the maximum extent possible under the law.

The software installed in accordance with this documentation is copyrighted and licensed by VMware, Inc. under separate license agreement. This software may only be used pursuant to the terms and conditions of such license agreement. Any other use may be a violation of law.

Use, duplication, or disclosure by the Government is subject to restrictions set forth in the Commercial Software - Restricted Rights clause at 52.227-19 of the Federal Acquisitions Regulations (48 CFR 52.227-19) except that the government agency shall not have the right to disclose this software to support service contractors or their subcontractors without the prior written consent of VMware, Inc.

This software is provided by VMware, Inc. and contributors "as is" and any expressed or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall VMware, Inc. or any contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.

COPYRIGHTS

This software product, its documentation, and its user interface © 1986-2012 VMware, Inc., and GemStone Systems, Inc. All rights reserved by VMware, Inc.

PATENTS

GemStone software is covered by U.S. Patent Number 6,256,637 "Transactional virtual machine architecture", Patent Number 6,360,219 "Object queues with concurrent updating", Patent Number 6,567,905 "Generational garbage collector with persistent object cache", and Patent Number 6,681,226 "Selective pessimistic locking for a concurrently updateable database". GemStone software may also be covered by one or more pending United States patent applications.

TRADEMARKS

VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions.

GemStone, **GemBuilder**, **GemConnect**, and the GemStone logos are trademarks or registered trademarks of VMware, Inc., previously of GemStone Systems, Inc., in the United States and other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Sun, **Sun Microsystems**, and **Solaris** are trademarks or registered trademarks of Oracle and/or its affiliates. **SPARC** is a registered trademark of SPARC International, Inc.

HP, **HP Integrity**, and **HP-UX** are registered trademarks of Hewlett Packard Company.

Intel, Pentium, and **Itanium** are registered trademarks of Intel Corporation in the United States and other countries.

Microsoft, **MS**, **Windows, Windows XP, Windows 2003**, **Windows 7** and **Windows Vista** are registered trademarks of Microsoft Corporation in the United States and other countries.

Linux is a registered trademark of Linus Torvalds and others.

Red Hat and all Red Hat-based trademarks and logos are trademarks or registered trademarks of Red Hat, Inc. in the United States and other countries.

SUSE is a registered trademark of Novell, Inc. in the United States and other countries.

AIX, **POWER5**, and **POWER6** are trademarks or registered trademarks of International Business Machines Corporation.

Apple, **Mac**, **Mac OS, Macintosh**, and **Snow Leopard** are trademarks of Apple Inc., in the United States and other countries.

Other company or product names mentioned herein may be trademarks or registered trademarks of their respective owners. Trademark specifications are subject to change without notice. All terms mentioned in this documentation that are known to be trademarks or service marks have been appropriately capitalized to the best of our knowledge; however, VMware cannot attest to the accuracy of all trademark information. Use of a term in this documentation should not be regarded as affecting the validity of any trademark or service mark.

VMware, Inc.
15220 NW Greenbrier Parkway
Suite 150
Beaverton, OR 97006

Preface

About This Documentation

These release notes describe the changes in the GemBuilder® for Smalltalk version 7.4.1 release. This documentation is also available on the GemStone Technical Support website.

For information on installing or upgrading to this version of GemBuilder for Smalltalk, please refer to the *GemBuilder for Smalltalk Installation Guide* for version 7.4.1.

Terminology Conventions

The term "GemStone" is used to refer to the server products GemStone/S 64 Bit and GemStone/S; and may also be used to refer to the company, previously GemStone Systems, Inc., now a division of VMware, Inc.

Technical Support

GemStone Website

http://support.gemstone.com

GemStone's Technical Support website provides a variety of resources to help you use GemStone products:

- Documentation for released versions of all GemStone products, in PDF form.
- Downloads and Patches, including past and current versions of GemBuilder for Smalltalk.
- Bugnotes, identifying performance issues or error conditions you should be aware of.
- TechTips, providing information and instructions that are not otherwise included in the documentation.
- Compatibility matrices, listing supported platforms for GemStone product versions.

This material is updated regularly; we recommend checking this site on a regular basis.

Help Requests

You may need to contact Technical Support directly, if your questions are not answered in the documentation or by other material on the Technical Support site. Technical Support is available to customers with current support contracts.

Requests for technical support may be submitted online, by email, or by telephone. We recommend you use telephone contact only for serious requests that require immediate attention, such as a production system down. The support website is the preferred way to contact Technical Support.

Website: http://techsupport.gemstone.com

Email: techsupport@gemstone.com

Telephone: (800) 243-4772 or (503) 533-3503

If you are reporting an emergency by telephone, select the option to transfer your call to the Technical Support administrator, who will take down your customer information and immediately contact an engineer. Please also open a ticket on the website, and include error and log information. Non-emergency requests received by telephone will be placed in the normal support queue for evaluation and response.

When submitting a request, please include the following information:

- Your name, company name, and GemStone server license number.
- The versions of all related GemStone products, and of any other related products, such as client Smalltalk products.
- The operating system and version you are using.
- A description of the problem or request.
- Exact error message(s) received, if any, including log files if appropriate.

GemStone Technical Support is available from 8am to 5pm Pacific Time, Monday through Friday, excluding VMware/GemStone holidays.

24x7 Emergency Technical Support

GemStone Technical Support offers, at an additional charge, 24x7 emergency technical support. This support entitles customers to contact us 24 hours a day, 7 days a week, 365 days a year, for issues impacting a production system. For more details, contact your GemStone account manager.

Training and Consulting

Consulting is available to help you succeed with GemStone products. Training for GemStone software is available at your location, and training courses are offered periodically at our offices in Beaverton, Oregon. Contact your GemStone account representative for more details or to obtain consulting services.

Contents

Chapter 1. Release Notes for GemBuilder for Smalltalk 7.4.1

Supported Platforms and Versions . . . 7
Changes and New Features . . . 9
Improved handling of export of session parameters . . . 9
Call Tracing now public . . . 9
Increased display for strings in inspectors . . . 9
Further changes in comment handling . . . 9
"Show Glue" option added to Debugger . . . 9
GbxScaledDecimal renamed . . . 10
Bugs Fixed . . . 10
Debugger menu items broken for server contexts . . . 10
Hierarchy Implementors . . . 10
Some menu items now disabled for server contexts . . . 10
Debugger highlight of current step in server methods sometimes incorrect . . . 10
Comment handling issues . . . 10
Inspector error when diving into forwarder to unmapped server object . . . 10
Multibyte source strings not always swizzled correctly with 3.0 server . . . 11
Object browse results in error for server class . . . 11
Errors when inspecting server proxy objects . . . 11
Error in Debugger for non-indexed server objects that return nonzero size . . . 11
Missing error for GS64 2.4.5 . . . 11

Chapter 1

Release Notes for GemBuilder for Smalltalk 7.4.1

GemBuilder for Smalltalk (GBS) version 7.4.1 is a new version of the GemBuilder for Smalltalk product, including usability enhancements and fixing a number of bugs. Please take time to read through these release notes before installing or upgrading, to acquaint yourself with the changes.

These release notes provide changes between the previous version of GBS, version 7.4, and version 7.4.1. If you are upgrading from a version prior to 7.4, please also review the release notes for each intermediate release to see the full set of changes.

This release supports VisualWorks 7.7.1 and later. It does not support VA Smalltalk; support for this is provided in a separate release. This release supports both the GemStone/S 64 Bit product, using the Single-trip interface, and GemStone/S, using the Multi-trip interface. It is not usable with versions of GemStone/S 64 bit earlier than 2.2.5. For details on supported client platforms, see 'Supported Platforms and Versions' below.

To install GemBuilder for Smalltalk 7.4.1, follow the instructions in the *GemBuilder for Smalltalk Installation Guide* for version 7.4.1.

Supported Platforms and Versions

The following tables describe the client Smalltalk versions and platforms supported by GBS 7.4.1, and the GemStone server product shared library versions that can be used with each.

GemBuilder for Smalltalk version 7.4.1 supports both GemStone/S, the original 32-bit GemStone object server, and GemStone/S 64 Bit, the 64-bit GemStone/S-based object server. The following tables list the supported client operating system, client Smalltalk, and GemStone server version configurations for both GemStone/S server products.

VisualWorks 7.8.1 support - at the time we completed testing of v7.4.1, the VW 7.8.1 release candidate had not yet been released by Cincom. If this candidate becomes final, GBS 7.4.1 would be fully certified with VW 7.8.1.

Table 1 Supported 32-bit GemStone/S Server versions

	VW 7.8.1 32-bit prerelease	**VW 7.8** 32-bit	**VW 7.7.1** 32-bit
64-bit Windows 2008 R2	6.6.1	6.6.1	
32-bit Windows 7; **32-bit Windows XP, SP 1 or later**	6.6.1	6.6.1, 6.5.8	6.6.1, 6.5.8
Red Hat Linux ES 6.1	6.6.1	6.6.1	
Red Hat Linux ES 5.0 and 5.5	6.6.1	6.6.1, 6.5.8	6.6.1, 6.5.8
Solaris 9 and 10 on SPARC	6.6.1	6.6.1, 6.5.8	6.6.1, 6.5.8

Table 2 Supported GemStone/S 64 Bit Server versions - RPC logins only

	VW 7.8.1 32-bit prerelease	**VW 7.8** 32-bit	**VW 7.7.1** 32-bit
64-bit Windows 2008 R2	3.0.1	3.0.1	
64-bit Windows 7; **32-bit Windows 7;** **32-bit Windows XP, SP 1 or later**	3.0.1, 2.4.5	3.0.1, 2.4.5, 2.4.4.7	3.0.1, 2.4.5, 2.4.4.7
SUSE Linux ES 11; **Red Hat Linux ES 6.1;**	2.4.5	2.4.5	2.4.5
SUSE Linux ES 10; **Red Hat Linux ES 5.5**	3.0.1, 2.4.5	3.0.1, 2.4.5	3.0.1, 2.4.5
Solaris 10 on SPARC	3.0.1, 2.4.5	3.0.1, 2.4.5	3.0.1, 2.4.5
Solaris 9 on SPARC	2.4.5	2.4.5	2.4.5

Table 3 Supported GemStone/S 64 Bit Server versions - Linked or RPC logins
Linked logins require 64-Bit VisualWorks Smalltalk clients

	VW 7.8.1 64-bit prerelease	**VW 7.8** 64-bit	**VW 7.7.1** 64-bit
SUSE Linux ES 11; **Red Hat Linux ES 6.1;**	2.4.5	2.4.5	2.4.5
SUSE Linux ES 10; **Red Hat Linux ES 5.5**	3.0.1, 2.4.5	3.0.1, 2.4.5	3.0.1, 2.4.5
Solaris 10 on SPARC	3.0.1, 2.4.5	3.0.1, 2.4.5	3.0.1, 2.4.5

Changes and New Features

Improved handling of export of session parameters

Earlier versions of GBS allowed export only of the entire list of session parameters via the **Export...** pop up menu item. Now, the **Export...** menu item will export only the selected session parameters, and a new menu item, **Export all...** allows export of the entire list.

Call Tracing now public

The classes GbxCallTracing and GbxMemoryLogger are now public, and have been renamed GbsCallTracing and GbsMemoryLogger.

Increased display for strings in inspectors

Previously, inspectors truncated long strings at 1000 characters. Now, up to 1,000,000 (1M) characters are displayed.

Further changes in comment handling

As documented in the GBS 7.4 Release Notes, the way comments are handled by the GBS browser changed in v7.4, to accommodate the GS64 v3.0.x server. In GS64 v3.0, the GsClassDocumentation stored in the class object is deprecated, and comments are defined in a class method #comment for each class.

In v7.4.1, the defined behavior is changing to be more consistent and avoid class comments in multiple locations that may diverge. This is a change from the behavior documented in the GBS 7.4 Release Notes.

Now, the way comments are handled is the same when logged into all server products and versions.

If a class method #comment is defined for the class - excluding any comment method inherited from a superclass or Object - then this is displayed when the GemStone System browser Class pane **comment** menu item is selected.

If no #comment method is defined for that class, again ignoring any inherited implementation, then the GsClassDocumentation stored in the classes' description is used, if that exists.

If neither exists, an empty text is displayed. Inherited #comment methods are never displayed.

When the class comment is updated in the System Browser text pane and accepted, it is saved to both a method named #comment defined for that class, creating this method if it does not exist; and the same text is also saved in the GsClassDocumentation stored in the classes' description.

"Show Glue" option added to Debugger

The Debugger **stack** menu now includes the **Show Glue** option. When this is selected, the GBS exception handling infrastructure methods that are normally hidden are included in the stack frames.

GbxScaledDecimal renamed

To support GemStone/S 64 Bit v3.0 and later, which have reimplemented ScaledDecimal, a new GBS class was added. Since this is intended to be a public class, it has been renamed from GbxScaledDecimal to GemStone.Gbs.ScaledDecimal.

In addition, a number of bugs related to the GbxScaledDecimal/ScaledDecimal class have been cleaned up.

The method #isScaledDecimal has been renamed to _isScaledDecimal for compatibility with the server.

Bugs Fixed

The following bugs have been fixed since GemBuilder for Smalltalk version 7.4:

Debugger menu items broken for server contexts

Hierarchy Implementors

When in a GS server context in the debugger, selecting the popup menu item **Hierarchy Implementors** resulted in an error. This menu item now performs correctly. (#41937)

Some menu items now disabled for server contexts

Browse Versions, **Revert...**, **Show Containing Package...**, and **Recompile with Full Blocks** are not meaningful in a server context, and selection resulted in errors. These menu items are now disabled when a server context is selected.

Debugger highlight of current step in server methods sometimes incorrect

When the debugger selects text to highlight the current step, in some cases the logic was incorrect and the wrong text highlighted. There may still be cases of incorrect highlighting due to problems in the data from the server; these should be fixed in later versions of the server. (#41987)

Comment handling issues

Comment handling changed in v7.4, to accommodate the GS64 v3.0.x server. This code did not work correctly against server products and versions prior to 3.0. When logged into an earlier server for classes that did not define the #comment method, viewing or saving a class comment using the Class pane **comment** menu item resulted in message not understood errors. (#42080)

The rules governing where comments are read from and saved to has changed between 7.4. and 7.4.1; see “Further changes in comment handling” on page 9.

Inspector error when diving into forwarder to unmapped server object

From an inspector, diving into a forwarder to a server objects whose class is not mapped to a client class resulted in an error. (#41739)

Multibyte source strings not always swizzled correctly with 3.0 server

with GS64 3.0 and later only

TwoByteStrings from little-endian clients (Windows and Linux) are swizzled incorrectly when sent to the server, resulting in compiler errors. (#41695)

This problem is related to changes in GemStone/S 64 Bit v3.0 handling of multibyte strings; earlier versions of GS64 and 32-bit Gemstone/S are not affected.

Object browse results in error for server class

with GS64 3.0 and later only

When inspecting a server object, the GS Basic tab menu item Object > Browse resulted in an error. (#42007)

Errors when inspecting server proxy objects

Inspecting server proxy objects, such as client forwarders, that did not understand messages such as #class or #printString would result in message not understood errors.

Error in Debugger for non-indexed server objects that return nonzero size

If a non-collection server object returned a non-zero value when sent the #size message (normally by overriding the #size method), the Debugger object pane included #size number of unnamed instance variable slots, and selecting one resulted in an error.

Missing error for GS64 2.4.5

with GS64 2.4.5 only

A server error was added in v.2.4.5, which had no GBS equivalent. The GBS error class GbsObjErrDiffSizeColl has been added. (#41967)